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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,378	04/30/2004	Ronald K. Maxwell	040167	3377
23464	7590	09/27/2005	EXAMINER	
BUCHANAN INGERSOLL, P.C. ONE OXFORD CENTRE, 301 GRANT STREET 20TH FLOOR PITTSBURGH, PA 15219			ROST, ANDREW J	
			ART UNIT	PAPER NUMBER
			3751	

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/709,378

Applicant(s)

MAXWELL ET AL.

Examiner

Andrew J. Rost

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☒ Claim(s) 1-22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04/30/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 05/03/2004.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “air valve extending through the U-shaped flange and into the interior of said air chamber” and “attachment members for removably securing said seal cartridge to said frame comprises one or more clamps” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

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the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure includes minor errors. Line 4, replace "liner" with -- linear --.

Correction is required. See MPEP § 608.01(b).

3. The disclosure includes the following informalities:

Paragraph [0004], line 3, replace "combustion by A" with -- combustion by-products. A --

Paragraph [0005], line 5, replace "U.S.N o." with -- U.S. Patent No. --

Paragraph [0006], line 4, delete "a"

Paragraph [0009], line 12, replace "translated" with -- translates --

Paragraph [0023], line 2, replace "closed" with -- open --

Paragraph [0024], line 2, replace "open" with -- closed --

Paragraph [0027], line 2, replace with -- in Figure 2 and *in situ* installed in duct 2 in Figure 1 --

Paragraph [0034], line 5, replace "hub 18" with -- hub 80 --

Paragraph [0039], line 8, replace "Figures 14 and 15." with -- Figure 14. -- Figure 15 is not present in application.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 19 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The phrase "an air valve extending through said U-shaped flange and into the interior of said air chamber" is not described fully in the specification.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 3 "said U-shaped flange forming a closed loop" is unclear.

Claim 9 is confusing; the examiner is unable to determine the actual structure of the claim.

In claim 13, "Kevlar" is a trademark.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 3-5, 7-9 as far as it is definite, 16-19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Dreyer et al. (4,474,205).

Regarding claim 1, Dreyer et al. discloses a U-shaped flange (26) having an inner leg and outer leg (Figure 9, inner leg being attached by acorn nut 45 and outer leg being attached by nut 48), the U-shaped flange forming a closed loop (the U-shaped flange forms a closure with the addition of the seal membrane) and a flexible seal membrane (27) attached to the legs forming an air chamber (Column 3, lines 11-13).

In regards to claim 3, Dreyer et al. discloses a blade guide (28 in Figure 9) adjacent the inner leg of the U-shaped flange and the inner leg of the U-shaped flange longer than the outer leg of the U-shaped flange.

Regarding claims 4 and 21, Dreyer et al. discloses a frame (10), a blade plate (16), a seal cartridge (26) having an air chamber (Column 3, lines 12-13), and a series of bolts (34) and nuts (36) that are used to connect the seal cartridge frame (26) to the main frame (10).

In regards to claim 5, Dreyer et al. discloses a blade guide (28 in Figure 9) attached to the seal cartridge so that no portion of the seal membrane extends past the blade guide when deflated.

In regards to claims 7-9, Dreyer et al. discloses a seal membrane attached to a U-shaped flange by two concentric rows of outwardly projecting, threaded studs (44 and 54) that are welded to frame (26) (Column 3, lines 13-17).

In regards to claims 16-18, Dreyer et al. discloses blade guide members that are welded inside frame (26) (Column 3, lines 23-26). The blade guide members are located at the open end of the U-shaped flange and have a circular cross section with the outer circumference extending past the length of the inner leg (Figure 9).

In regards to claim 19, Dreyer et al. discloses a T-nozzle (37) that allows the air to flow into and out of the air chamber in the sealing member.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2, 6, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. in view of Clark et al. (3,178,779).

Dreyer et al. discloses a U-shaped flange, sealing member and bolts for attaching the flange to the main frame. Dreyer et al. does not disclose seal membrane guides. However, Clark et al. discloses seal membrane guides for protecting seal. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to place the seal membrane guides of Clark et al. inside the seal cartridge of Dreyer et al. in order to protect and prolong the service life of the seal membrane.

Clark et al. discloses an inner seal membrane guide, the tip of the inner seal on the right side of Figure 2, and an outer seal membrane guide, the tip of the inner seal on

the left side of Figure 2. The seal membrane guides define a minimum radius for the seal membrane when deflated (Figure 2). The inner and outer seal membrane guides are located nearer the open end of the U-shaped flange (23) than the attachment members. The rounded tips of the inner seal have circular cross sections (Figure 2).

11. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. in view of Machine Design, "Fluoroelastomer extends pump applications".

Dreyer et al. discloses a seal membrane of a flexible, durable material, such as laminated fabric of heat resistant rubber, with wire or fabric reinforcement (Column 3, lines 8-10). Dreyer does not disclose the use of fluoroelastic material. However, an article in Machine Design titled "Fluoroelastomer extends pump applications" discloses applications for fluoroelastomers include seals, valve liners, O-rings, and pump linings (paragraph 3, line 4) because fluoroelastomers are able to better withstand high temperatures and harsh chemicals than hydrocarbon-based rubber components. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the fluoroelastomer of the Machine Design article in place of the rubber of Dreyer et al. in order to provide a wider temperature and chemical ranges for the seal membrane.

12. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. as applied to claims 10-11 above, and further in view of Ryder, Jr. (4,381,985).

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Dreyer et al. discloses a seal membrane of a flexible, durable material, such as laminated fabric of heat resistant rubber, with wire or fabric reinforcement (Column 3, lines 8-10). Dreyer et al. does not disclose the nature of the wire or fabric reinforcement. However, Ryder, Jr. discloses a corrosion-resistant springy, porous capillary material, such as webs of woven or non-woven synthetic fiber (e.g., polyester non-woven webs) (Column 1, lines 59-62) for constructing a membrane. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use corrosion-resistant fabric reinforcement like polyester of Ryder, Jr. as the fabric reinforcement of Dreyer et al. in order to prolong the life of the seal membrane.

13. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. in view of Luffel et al. (6,622,366).

Dreyer et al. discloses a connecting member (31) for raising and lowering the seal cartridge when the damper is raised or lowered (Column 4, lines 28-31). Dreyer et al. does not disclose the use of a hook to raise or lower the seal cartridge. However, Luffel et al. discloses the use of hooks and screws for the purpose of fastening objects together. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute the connecting rods (or bolts) of Dreyer et al. with the hooks of Luffel et al. in order to provide a quicker connecting means between the seal cartridge and blade damper.

14. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. in view of Chatufale (6,041,804).

Dreyer et al. discloses a seal cartridge that is connected to the main frame by attachment members of bolts. Dreyer et al. does not disclose the use of clamps as attachment members. However, Chatufale discloses the use of removable fasteners including bolts and clamps for connecting an actuator housing to a valve bonnet. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to replace the bolts of Dreyer et al. with the clamps of Chatufale in order to provide more removable fastening means for the attachment of the seal cartridge to the main frame.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dreyer et al. (4,561,472) discloses an inflatable seal cartridge with modifications to the one referenced above. Bachmann (4,163,458) discloses a sliding blade closure apparatus that utilizes a chain for opening and closing. Crawshay discloses a sliding blade closure apparatus that uses rollers on both sides of the sliding blade. Maxwell (6,123,319) discloses a blade plate that has an adjustable seat and a pivotally connected blade plate. Maxwell (5,494,257) discloses an earlier version of the blade plate that has an adjustable seat and a pivotally connected blade plate. Bhide shows a valve capable for handling multiple gas pressures. Fox discloses a damper sealing structure that is operated by chains. Murphy discloses a water gate that

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reduces friction. Fortune discloses a slide gate valve that is operated by hand and the blade plate contains an opening for fluid passage. Woolley discloses a gate that contains an inflatable rubber seal that is inflated when in the proper position. Connor discloses a sliding blade closure that contains a purged area to inject pressurized fluid into the area and is operated by a chain. Marrero, et al. discloses a parking space barrier and indicator. McGee, et al. discloses a sliding valve that contains an opening in the plate that allows fluid to pass. Von Zweck discloses a gate valve for use in vacuum regions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew J. Rost whose telephone number is 571-272-2711. The examiner can normally be reached on 7:30-5 M-Th and 7:30-5 every other Friday.

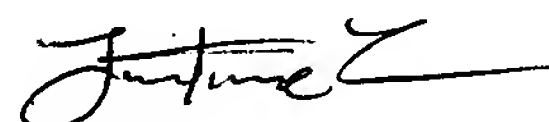
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine Yu can be reached on 571-272-4835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Andrew J Rost
Examiner
Art Unit 3751



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9/2/05